

CLAIM AMENDMENTS

Claim 1 (currently amended):

A woodworking machine having a cutting region for cutting workpieces, comprising:

a movable cutting tool for cutting workpieces in the cutting region;

a detection system adapted to detect ~~one or more dangerous conditions~~ contact between a person and the cutting tool; and

a reaction system associated with the detection system and the cutting tool, where the reaction system is configured to retract the cutting tool at least partially away from the cutting region upon detection of ~~at least one of the dangerous conditions~~ contact by the detection system.

Claims 2-4 (canceled).

Claim 5 (currently amended):

The machine of ~~claim 4~~ claim 1, where the reaction system includes a brake mechanism configured to stop the rotation of the blade upon detection of the ~~at least one dangerous condition~~ contact by the detection system.

Claims 6-7 (canceled).

Claim 8 (currently amended):

A woodworking machine comprising:

a frame adapted to support workpieces in a cutting region;

a movable cutting tool supported by the frame and configured to cut workpieces in the cutting region;

a motor configured to drive the cutting tool;

a detection system configured to detect one or more dangerous conditions between a person and the cutting tool; and

a brake mechanism including at least one braking component configured to engage and stop movement of the cutting tool upon detection of at least one of the dangerous conditions by the detection system, where engagement of the braking component with the cutting tool ~~The machine of claim 7, where engagement of the braking component with the cutting tool~~ causes the cutting tool to move at least partially out of the cutting region.

Claim 9 (canceled).

Claim 10 (currently amended):

A woodworking machine comprising:

a frame adapted to support workpieces in a cutting region;

~~The machine of claim 7, further comprising a rotatable shaft~~
pivotaly coupled to the frame;

a movable cutting tool supported by the frame and configured to
cut workpieces in the cutting region, and where the cutting tool is
mounted to rotate about the shaft and pivot toward and away from the
cutting region;

a motor configured to drive the cutting tool;

a detection system configured to detect one or more dangerous
conditions between a person and the cutting tool; and

a brake mechanism including at least one braking component
configured to engage and stop movement of the cutting tool upon
detection of at least one of the dangerous conditions by the detection
system, where engagement of the braking component with the cutting
tool and where the engagement of the braking component with the
rotating cutting tool causes the cutting tool and shaft to pivot at least
partially away from the cutting region.

Claims 11-18 (canceled).

Claim 19 (new):

The woodworking machine of claim 1, where the machine is a table saw and the movable cutting tool is a circular blade, the table saw further comprising:

an arbor to support the blade;

an arbor block to support the arbor;

a pivot pin to pivotally support the arbor block;

a rack gear associated with the arbor block;

a worm gear to engage the rack gear;

a shaft associated with the worm gear and configured to turn the worm gear to move the rack gear and arbor block; and

a release mechanism adapted to hold the worm gear in place relative to the shaft during normal operation of the saw, and further adapted to release the worm gear relative to the shaft upon detection of contact by the detection system, where the blade is free to retract when the worm gear is released.

Claim 20 (new):

The table saw of claim 19, where the release mechanism includes a channel in the worm gear, a shoulder on the shaft, and a clip positioned in the channel in the worm gear to engage the shoulder on the shaft.

Claim 21 (new):

The woodworking machine of claim 1, where the movable cutting tool is a circular blade, where the woodworking machine further comprises an arbor to support the blade, and where the reaction system includes a compressible bushing positioned between the arbor and the blade and configured to allow the blade to retract due to compression of the bushing.

Claim 22 (new):

The woodworking machine of claim 1, where reaction system includes a spring to push the cutting tool at least partially away from the cutting region.

Claim 23 (new):

The woodworking machine of claim 22, where reaction system further includes a segment gear and an arbor block releasably linked together, where the arbor block supports the cutting tool, and where the spring is configured to push the arbor block away from the segment gear to cause the cutting tool to retract upon detection of contact by the detection system.

Claim 24 (new):

The woodworking machine of claim 1, where the machine is a band saw and the movable cutting tool is a band blade, the band saw further comprising a roller positioned adjacent the blade and configured to retract the blade by pushing against the blade upon detection of contact by the detection system.

Claim 25 (new):

The woodworking machine of claim 1, where the machine is a miter saw and the movable cutting tool is a circular blade, the miter saw comprising:

- a support structure having a cutting zone;

- a swing arm above and pivotally attached to the support structure, where the blade is supported by the swing arm so that the blade may move into the cutting zone;

- a handle associated with the swing arm and adapted so that a user may pivot the swing arm and blade into the cutting zone; and

- a motor adapted to drive the blade;

where the reaction system is configured to retract the blade away from the cutting zone upon detection by the detection system of contact between the person and the blade.

Claim 26 (new):

The miter saw of claim 25, where the blade is rotatable, and where the reaction system is further adapted to stop rotation of the blade upon detection by the detection system of contact between the person and the blade.

Claim 27 (new):

The miter saw of claim 25, where the reaction system includes a brake mechanism adapted to engage and stop the rotation of the blade, and where the engagement of the brake mechanism with the blade retracts the blade away from the cutting zone.

Claim 28 (new):

The woodworking machine of claim 1, where the machine is a miter saw and the movable cutting tool is a circular blade, the miter saw comprising:

a base having a cutting region;

a swing arm above and pivotally attached to the base, where the blade is supported by the swing arm;

a handle associated with the swing arm and adapted so that a user may pivot the swing arm and blade into the cutting zone;

a brake system adapted to brake the blade; and

a linkage between the swing arm and base, where the linkage is configured to cause the swing arm and blade to retract away from the cutting region when the brake system brakes the blade.

Claim 29 (new):

A miter saw comprising:

a base;

a swing arm above and pivotally attached to the base;

a housing supported by the swing arm;

a blade supported by the swing arm;

a handle associated with the swing arm and adapted so that a user may pivot the swing arm and blade toward the base;

a mounting system holding the blade in the housing; and

a brake system adapted to brake the blade;

where the mounting system is configured so that the blade retracts at least partially into the housing when the brake system brakes the blade.